

## Course Structure Diagram with Course Credits

The undergraduate program in Mechatronics Engineering consists of 51 courses with 247 ECTS credits in total. There are at least 5 courses in each semester, excluding common compulsory courses and elective courses. In each program, there are common compulsory courses identified by the Higher Education Council of Turkey (YÖK) and other common courses determined by the University Senate.

Beginning from the senior (fourth) year, elective courses are anticipated in each semester.

5% of the elective courses are taken from other faculties.

There are at least 10 elective courses in each undergraduate program.

COURSES OFFERED THROUGHOUT THE UNIVERSITY		
Common University Courses	Campus Orientation	The students are registered to this course at the beginning of the first semester of the freshman year to familiarize them with the campus life at NEU.
	Career Planning	The students are registered to this course at the beginning of their second semester of the freshman year to help them prepare for work life after graduation.
	Cyprus History and Culture	This course is taken by students in their freshmen year, and it aims to help them to familiarize them with the local history and culture.
Common Compulsory Courses (YÖK Courses)	Turkish Language I-II (Turkish for Foreigners I & II to replace this course for international students) Principles of Atatürk and History of Revolution I-II	These are the compulsory courses which are required to be offered in all the associate and undergraduate programs in Turkey according to the Higher Education Legislation.
	Information Technologies	This course is anticipated in all the associate and undergraduate programs in Turkey to make the students gain the qualifications related to basic information technologies.
	Foreign Language (ENGLISH) I & II	This course is offered in the first and second semester and conducted according to the program curriculum of each faculty.

1 <sup>st</sup> Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
CHM 101	*	General Chemistry	3	1	4	6
ECC 101	*	Computer Programming	2	1	3	5
ENG 101	*	English I	3	0	3	5
MTH 101	*	Calculus I	3	0	4	5
PHY 101	*	General Physics I	3	1	4	5
TUR 101	*	Turkish Language I	2	0	2	2
AİT 103	*	Atatürk's Principles and Turkish Reform I	2	0	2	2
CHC 100	*	Cyprus Culture and History	2	0	2	2
CAM 100	*	Campus Integration	2	0	0	2
AİT 101	*	Atatürk's Principles and Turkish Reform I	2	0	0	2
YİT 101	*	Turkish For Foreign Students I	2	0	0	2
<b>Total</b>						<b>34</b>

1 <sup>st</sup> Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ENG 102	ENG 101	English II	3	0	3	5
MTH 102	MTH 101	Calculus II	3	0	4	6
MTH 113	MTH 101	Linear Algebra	3	0	3	5
PHY 102	PHY 101	General Physics I	3	1	4	6
MCT 102	*	Mechatronics Workshop Practice	3	0	3	5
MCT 100	*	Introduction To Mechatronics Engineering	2	0	1	3

<b>Total</b>						<b>30</b>
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**2<sup>nd</sup> Year Fall Semester**

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ECC 216	PHY 102 / MTH 101	Circuit Theory I	3	1	4	6
ECC 211	CHM 101	Engineering Materials	3	0	3	5
ECC 206	PHY 101	Statics	3	0	4	6
MTH 201	MTH 102	Differential Equations	4	0	4	6
ECC 207	CHM 101	Thermodynamics	3	0	4	6
ECC 103	*	Engineering Drawing I	3	0	3	5

<b>Total</b>						<b>34</b>
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**2<sup>nd</sup> Year Spring Semester**

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ECC 213	ECC 206	Strength of Materials I	3	1	4	6
ECC 209	*	Manufacturing Technology	3	0	3	5
ECC 212	PHY 101	Dynamics	3	1	3	5
ECC 218	ECC 216 / EEE 241	Electronics I	3	1	4	6
ECC 013	ECC 103	Engineering Drawing II	3	0	4	6
EEE 200	*	Summer Training I	0	0	0	2

<b>Total</b>						<b>30</b>
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**3<sup>rd</sup> Year Fall Semester**

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
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EEE 315	ECC 218	Logic Circuit Design	3	1	4	6
MCT 301	*	Mechatronics Components & Instrumentation	3	1	3	5
MCT 310	ECC 101	Computer Applications for Mechatronics Engineering	3	1	3	5
ECC 008	ECC 216	Signals and Systems	3	1	4	6
NTE	*	Non-Technical Elective	3	0	3	5
ENG 201	ENG 102	English Communication Skills	3	0	3	5
CAR 100	*	Career Planning	3	0	0	2
<b>Total</b>						<b>34</b>

3 <sup>rd</sup> Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MTH 251	MTH 101 & 102	Probability and Random Variables	3	0	3	5
ECC 301	ECC 001	Microprocessors	3	1	4	6
ECC 310	MTH 201	Control Systems	3	0	3	5
RE	*	Restricted Elective	3	0	3	5
MCT 311	ECC 213	Machine Elements	3	0	4	6
MCT 300	MCT 200	Summer Training II	0	0	0	2
<b>Total</b>						<b>29</b>

4 <sup>th</sup> Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MCT 435	*	Mechatronics	3	0	3	5
ECC 429	*	Engineering Ethics	3	0	3	5

TE	*	Technical Elective	3	0	3	5
TE	*	Technical Elective	3	0	3	5
TE	*	Technical Elective	3	0	3	5
MCT 410	*	Introduction to Capstone Design	4	0	4	6
<b>Total</b>						<b>31</b>

4 <sup>th</sup> Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MCT 411	*	Capstone Team Project	4	0	4	6
ECC 437	*	Robotic Systems	3	0	3	5
TE	*	Technical Elective	3	0	3	5
TE	*	Technical Elective	3	0	3	5
AİT 104	AİT 103	Atatürk's Principles and Turkish Reform II	2	0	2	2
YİT 102	YİT 101	Turkish For Foreign Students I	2	0	2	2
AİT 102	AİT 101	Atatürk's Principles and Turkish Reform II	2	0	2	2
TUR 102	TUR 101	Turkish Language II	2	0	2	2
<b>Total</b>						<b>25</b>

Field-Related / Technical Elective Courses						
Code	Pre.	Course Name	Theory	Applic ation/ Labora tory	Local Credits	ECTS
ECC 411	ECC 008	Digital Signal Processing	2	1	3	5
EEE 463	ECC 008	Machine Learning in Computer Vision	2	1	3	5
EEE 494	*	Introduction to Computer Vision	3	0	3	5

EEE 420	EEE 210	Intelligent Control Systems	2	1	3	5
EEE 424	EEE 324	Process Control Instrumentation Technology	3	0	3	5
EEE 451	ECC 001	Digital Electronics	3	0	3	5
EEE 454	EEE 324	Digital Control Systems	3	0	3	5
EEE 470	ECC 001	Programmable Logic Controllers	2	1	3	5
MCT 420	*	Principles of Photovoltaics, Fuel Cells, and Batteries	3	1	3	5
MCT 421	*	Principles of Sensors and Condition Monitoring for Machinery	3	1	3	5

#### Non-Field-Related / Non-Technical Elective Courses

Code	Pre.	Course Name	Theory	Application/Laboratory	Local Credits	ECTS
ECC 426	*	Economics for Engineers	3	0	3	5
ECC 427	*	Management for Engineers	3	0	3	5